

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 6,843,787 B2  
DATED : January 18, 2005  
INVENTOR(S) : Luis Antonio Ruiz

Page 1 of 6

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

The title page, showing an illustrative figure, should be deleted and substitute therefore the attached title page.

Delete drawing sheets 4 of 7, 5 of 7, 6 of 7 and 7 of 7, and substitute therefore the drawing sheets, consisting of FIGS. 4-7, as shown on the attached pages.

Signed and Sealed this

Twenty-third Day of August, 2005

A handwritten signature in black ink, appearing to read "Jon W. Dudas". The signature is stylized with a large, looped initial "J" and a distinct "D".

---

JON W. DUDAS  
*Director of the United States Patent and Trademark Office*

(12) **United States Patent**  
Ruiz

(10) Patent No.: **US 6,843,787 B2**  
(45) Date of Patent: **\*Jan. 18, 2005**

(54) **APPARATUS AND METHOD FOR PERFORMING PRESBYOPIA CORRECTIVE SURGERY**

(76) Inventor: **Luis Antonio Ruiz**, Centro Oftalmológico Colombiano, Carrera 20 No. 85-11, Pisos 5o.-6o., Santafé de Bogotá (CO)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: 09/944,102

(22) Filed: Sep. 4, 2001

(65) Prior Publication Data

US 2002/0055735 A1 May 9, 2002

**Related U.S. Application Data**

(63) Continuation of application No. 09/186,884, filed on Nov. 6, 1998, now Pat. No. 6,302,877, which is a continuation-in-part of application No. 08/660,376, filed on Jun. 7, 1996, now Pat. No. 5,928,129, which is a continuation-in-part of application No. 08/268,182, filed on Jun. 29, 1994, now Pat. No. 5,533,997.

(51) Int. Cl.<sup>7</sup> ..... A61F 9/007

(52) U.S. Cl. .... 606/5; 606/10

(58) Field of Search ..... 606/5, 10, 13, 606/17, 18; 351/161; 623/6.28

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

4,173,980 A 11/1979 Curtin  
4,461,294 A 7/1984 Baron  
4,660,556 A 4/1987 Swinger et al.  
4,662,370 A 5/1987 Hoffmann et al.  
4,665,914 A 5/1987 Tanne  
4,674,503 A 6/1987 Peyman et al.

4,688,570 A 8/1987 Kramer et al.  
4,705,035 A 11/1987 Givens  
4,718,418 A 1/1988 L'Esperance, Jr.

(List continued on next page.)

**FOREIGN PATENT DOCUMENTS**

EP A-346116 12/1989  
EP A-402250 12/1990  
EP 0 417 952 3/1991  
JP 3-155491 7/1991  
JP 3-94750 4/1992  
JP 6-181944 7/1994  
WO WO 94/01067 1/1994

**OTHER PUBLICATIONS**

*Lasers in Surgery Medicine*, vol. 10, No. 5, Jan. 1, 1990, pp. 463-468, XP 000385912, Pallikaris: "Laser In-Situ Keratomileusis".

*Steinway Instrument Co.*, The Steinway/Barraquer In-Situ Microkeratome Set, from the Steinway Instrument Co. of San Diego, California.

*Surgery for Hyperopia & Presbyopia*, by Neal A. Sher, M.D., F.A.C.S., *Williams & Wilkins*, 1997 (entire book submitted).

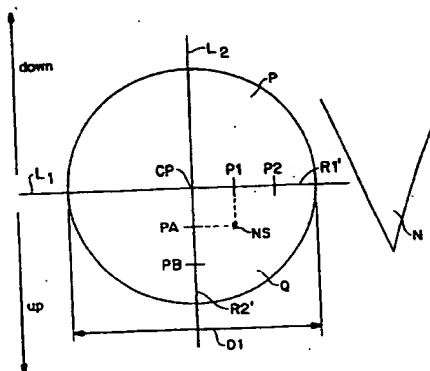
*Primary Examiner*—David M. Shay

(74) *Attorney, Agent, or Firm*—Smith, Gambrell & Russell, LLP

(57) **ABSTRACT**

A process and system for addressing presbyopia of an eye is disclosed and features the resecting of an eye to expose a corneal stroma and system and method for determining an eye sculpturing center point found in a nasal-superior region of the eye. Sculpturing through use of an ablation laser is then carried out relative to the determined eye sculpturing centerpoint which sculpturing includes leaving a central optic zone unable relative to the presbyopic corrective process. Following sculpturing the resected portion of the eye is returned to cover over the sculptured region. The sculpturing profile is also formed with ablation control to define an advantageous (e.g., aspherical) ablation profile in the stroma.

28 Claims, 7 Drawing Sheets



U.S. Patent

Jan. 18, 2005

Sheet 4 of 7

6,843,787 B2

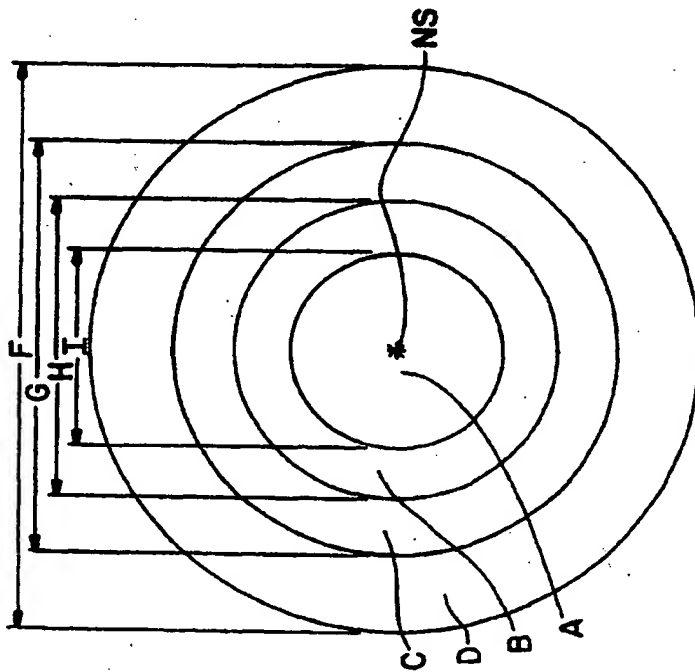


FIG. 4

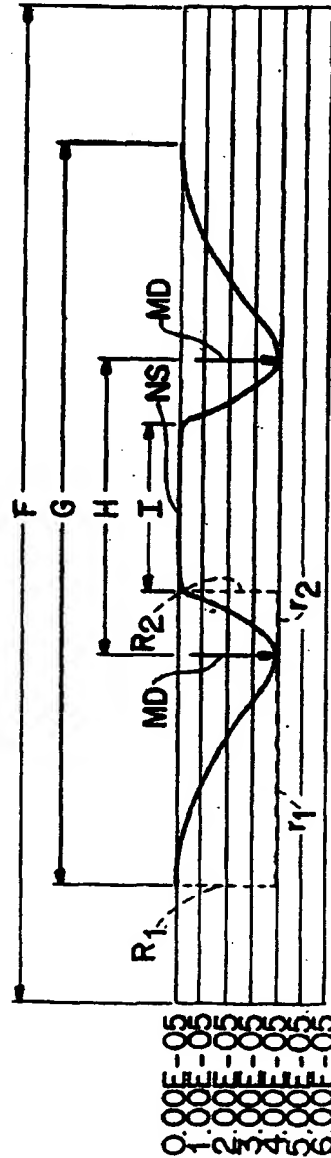


FIG. 4A

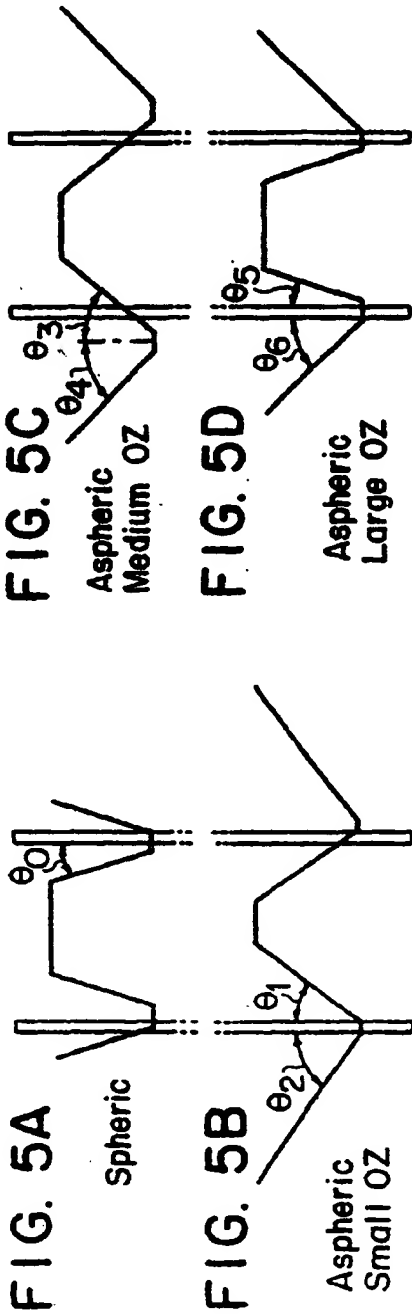


FIG. 5E

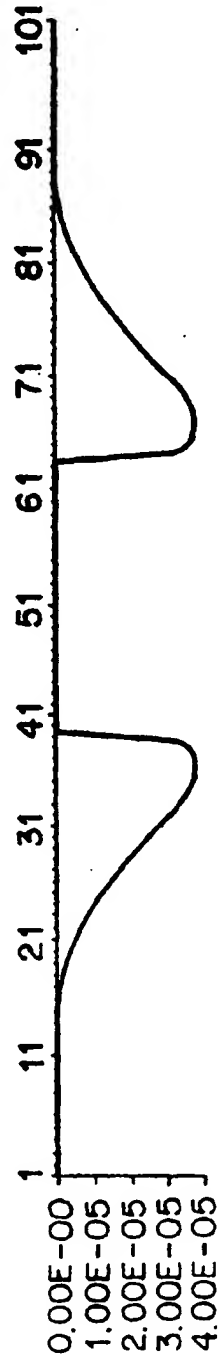


FIG. 6

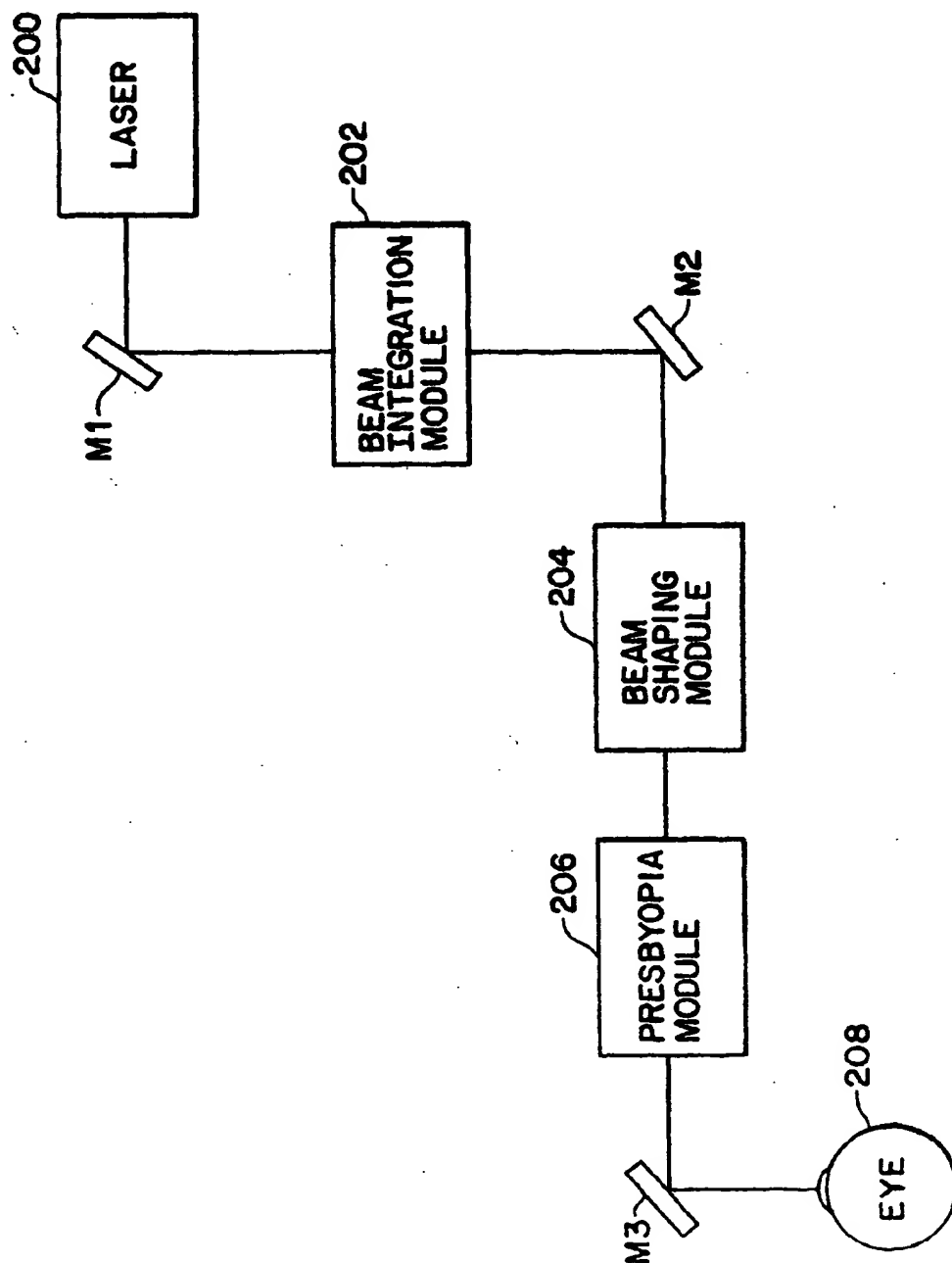


FIG. 7

